

QUARTERLY STATUS REPORT
ROCKY FLATS CLEANUP AGREEMENT IMPLEMENTATION
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
FIRST QUARTER FISCAL YEAR 2002



ADMIN RECORD

SW-A-004488

DOCUMENT CLASSIFICATION
REVIEW: WAIVER PER
CLASSIFICATION OFFICE

CEX-010-98

1/17

1.0 Introduction

Pursuant to paragraphs 122 and 263 of the Rocky Flats Cleanup Agreement (RFCA or Agreement), this quarterly status report presents the progress toward implementation of activities covered under the Agreement. The RFCA is a legally binding agreement between the Department of Energy (DOE), the Environmental Protection Agency (EPA), and the Colorado Department of Public Health and Environment (CDPHE) to accomplish required cleanup of radionuclide and hazardous substance contamination at and from the Rocky Flats Environmental Technology Site (RFETS). For the purposes of this report, the term, the Site, refers to both DOE and the Kaiser-Hill Company, L L C (Kaiser-Hill).

This report describes activities that occurred from October 2001 through December 2001 (referred to as the first quarter of fiscal year [FY] 02). The sections of this report are organized into the following topics: (1) Introduction, (2) Site-wide Activities Implementing RFCA and Supporting RFETS Closure, (3) RFETS Closure Projects, (4) Water Management, and (5) List of Approved Decision Documents.

2.0 Site-wide Activities Implementing RFCA and Supporting Site Closure

Site-wide activities implementing RFCA and supporting site closure during the first quarter of FY02 included: (1) Closure Project Baseline (CPB) and Status of RFCA Milestones, (2) Integrated Monitoring Plan (IMP) Update, (3) Actinide Migration Evaluation (AME) Update; (4) Site-wide Water Balance (SWWB) Update, (5) Land Configuration Design Basis (LCDB) Update, and (6) Environmental Remediation (ER) RFCA Standard Operating Protocol (RSOP).

2.1 Closure Project Baseline and Status of RFCA Milestones (Pending #'s)

In accordance with the RFCA earned value (EV) framework, which the RFCA Parties adopted for setting milestones pursuant to the requirements in Part 11, Subpart A, the Site achieved all the Tier 1 milestones set for Fiscal Year 2001. No Tier 2 milestones were established for FY 2001. The earned value amounts and percentages achieved for the fiscal year just completed are as follows:

Milestone	100% EV (\$) Scheduled	50% EV (\$) Scheduled	EV Complete (\$)	Percent complete	Carryover to FY2002
50% FY01 Scheduled D&D LV	\$24 616M*	\$12 308M	\$27 506M	112%	0 (S2 890M surplus)
50% FY01 Scheduled Low Level Waste EV	\$3 171M	\$1 586M	\$11 170M	352%	0 (S8 00M surplus)
50% FY01 Scheduled TRU Waste EV	\$1 157M	\$579K	\$618K	53%	-\$539K
Total	\$28 944M	\$14 473M	\$39 294M	136%	-\$539K

* The D&D EV scheduled was increased due to a baseline change that revised B371 earned value activities and added B111 earned value activities to the FY2001 schedule

The Site continued to accelerate decommissioning work efforts during the first quarter of FY02. This acceleration has been enabled by the continued improvement in safety related performance, which allows the buildings to operate without compliance related work stoppages. At the end of the first quarter of FY02, all major facilities are ahead of schedule in performing their decommissioning work activities. In addition to accelerating the decommissioning work effort, the Site processed a formal change to revise the decommissioning plan for Building (B) 707. Prior to this change, B707's work activities had excluded some of the decommissioning work planned to be performed by the building trades. This change added more detail to the overall facility-decommissioning schedule and increased the FY02 and life cycle value of the RFCA monitored work scope, however, the completion date remained the same.

In addition to the significant progress in decommissioning, the Site finalized the expansion of the shipping facilities in B440. This expansion provides sufficient dock capacity to support future TRU waste shipments.

The focus during the second quarter of FY02 will be to accelerate Decontamination & Decommissioning (D&D) of the south side (uranium buildings) and continue progress in decommissioning of plutonium facilities.

For the period October 1, 2000 through December 23, 2001, the cumulative schedule variance reported by Kaiser-Hill for the four areas of RFCA Earned Value Milestones is

- Decontamination and Decommissioning \$13.9 Million (38.0% ahead of plan)
- Environmental Restoration \$183 Thousand (31.3% ahead of plan)
- Low Level Waste Shipments \$4.7 Million (52.2% ahead of plan)
- Transuranic Waste Shipments -\$763 Thousand (-50.6% behind plan)

These statistics are based upon the subset of activities coded as RFCA on the DOE approved Contract Predetermined Work Activity matrix. These statistics will not reflect any recent changes to the RFCA activities that may have resulted from recent negotiations between DOE and the regulators.

2.2 Integrated Monitoring Plan Update

The IMP Working Group completed its discussions in October regarding changes to the 2002 IMP. The document is now in production, with an expected release date of January 2002.

Other than the changes in CDPHE's monitoring reported last quarter, significant changes were few. These are noted below:

- Surface water performance monitoring stations will be added in the south industrial area in anticipation of the accelerated D&D and ER activities in that area.
- Groundwater performance monitoring wells were added around various buildings in the industrial area.
- A final sampling and analysis plan (SAP) for air monitoring of potential beryllium emissions during demolition projects was finalized. The plan calls for six samplers to be placed around three buildings that housed significant beryllium operations; the samplers will be operated during working hours of the demolition. The sampling strategy was tested during the demolition of B111 to develop a baseline concentration for beryllium from soil disturbance.

In addition to these changes to the IMP, other proposed changes continued to be discussed, the most prominent being the discussion of close-in monitoring for radionuclides during demolition activities. The CDPHE performed such monitoring during the B111 demolition, using methodology contained in a draft data quality objective (DQO) provided to the IMP Working Group. Should the decision be made to go forward with such monitoring, the DQOs will be refined further and incorporated into the next IMP review cycle.

Other potential changes in the next IMP review include a discussion of polychlorinated biphenyls (PCB) monitoring in groundwater. This monitoring is anticipated based on Site plans and regulator approval to back-fill building foundations using concrete rubble having paint that contains trace amounts of PCBs. The approval letter from EPA stipulates monitoring of PCBs be performed in some locations. Discussions will also be initiated identifying the proposed groundwater wells slated for closure over the next several years under the well-abandonment program.

The next IMP review cycle is expected to start in late March or early April of 2002.

2.3 Actinide Migration Evaluation Update

Kaiser-Hill and DOE established an Actinide Migration Evaluation (AME) (formerly called the Actinide Migration Studies) Group to provide expert guidance and data on issues of actinide (plutonium, americium, and uranium) behavior and mobility in surface water, groundwater, air, soil, and biota environments

The Advisors to the AME Group have been delegated to draw on the state-of-the-art understanding in the scientific community on actinide chemistry, geochemistry, hydrogeology, and biological transport and apply them to actinide migration issues at RFETS

During the first quarter of FY02, the AME Group conducted the following activities

- 1 Held quarterly meeting of the AME Group on October 15 through 16, 2001, which focused on results of the erosion and sediment transport modeling and status of the Pathway Analysis Report This meeting with the stakeholders focused on erosion and sediment transport modeling and RFETS sources of americium and how it moves in the environment
- 2 Reviewed draft report titled "Soil Erosion and Sediment Transport Modeling of Hydrologic Scenarios for the Actinide Migration Evaluations at the Rocky Flats Environmental Technology Site" and discussed these comments in the AME Group Meeting
- 3 Attended the American Water Resources Association National Conference held in Albuquerque, New Mexico from November 12 through 14, 2001 Papers were presented on "Actinide Migration Pathways at Rocky Flats" and "Modeling the Impact of Fire on Contaminant Transport in Streams" Both presentations were part of special sessions to honor Dr Leonard Lane, a retiring Agricultural Research Service scientist who has served as an AME Advisor at RFETS during the past two years
- 4 Support was provided to the LCDB project to develop erosion and sediment transport models for three different land configuration closure scenarios. The models provide estimates of surface water concentrations of plutonium and americium in the Walnut and Woman Creek drainage basins Land configuration alternatives modeled included options with channel re-routing, additional wetlands and hillslope regrading Modeling results will be summarized in a report provided to the LCDB project manager
- 5 Continued work with Site personnel incorporating comments into the Technical Appendix and the Summary Report of the Pathway Analysis Report and coordinating with the Kaiser-Hill Communications group on graphics, text and layout for the Summary Report The Pathway Analysis Report is planned to be released in February 2002

- 6 Received draft work plan for Texas A&M at Galveston for FY02 work on plutonium/ameridium characterization of groundwater and investigation of actinide transport through flow-through pond systems The work plan is currently being finalized, incorporating comments from the AME Group.
- 7 Received draft Los Alamos National Laboratory white paper on recommendations for uranium transport modeling which will assist Kaiser-Hill in evaluating the path forward and need for uranium bulk transport Comments are currently being incorporated

The next stakeholder meeting will be held in April 2002 after the Pathway Analysis Report is completed to discuss the results of the report

2.4 Site-wide Water Balance Update

The purpose of the Site-wide Water Balance is to develop information to support a hydrologic design basis for RFETS closure activities The objectives of the Site-wide Water Balance are to provide RFETS with a management tool to (1) evaluate how the Site-wide hydrology is likely to change from its present configuration to the final configuration at closure, (2) assist in predicting surface water impacts from groundwater for the present and final configurations, (3) provide hydrologic profiles that guide decisions concerning the final Industrial Area configuration to protect surface water quality, and (4) provide information for the comprehensive risk assessment (CRA), and the Final Corrective Action Decision/Record of Decision (CAD/ROD)

During the first quarter of FY02, Site-wide Water Balance activities included the following

- 1 Completed calibration of the MIKE SHE model and integration of the unsaturated zone, groundwater, and surface water components Several public/stakeholder meetings were held in November 2001 to discuss the status of the SWWB modeling effort
- 2 Conducted model validation using Spring 1995 data, the results are currently being evaluated
- 3 Completed model sensitivity analyses, the results are currently being evaluated

Next quarter the Site-wide Water Balance activities will complete the planned modeling scenarios and uncertainty analyses A modeling status meeting with the regulators and stakeholders is planned for late Spring 2002 As soon as a definite date is chosen, notification will be provided

2.5 Land Configuration Design Basis Update

The purpose of the LCDB Project is to define the design basis upon which a final land configuration can be developed. In conjunction with identifying the functional design objectives and developing the design basis, three bounding scenarios were identified to represent relative extremes of distinct and unique approaches. These bounding scenarios represent a reasonable range of viable approaches and allow for evaluation of individual components of the condition. The bounding scenarios have been modeled and are currently being evaluated by the AME Project. Output from these evaluations will be used to aid in construction of an initial conceptual design. This initial conceptual design will be used as a discussion point and to help guide D&D and ER interim decisions. The LCDB will also identify the data gaps that must be addressed prior to development of the final design.

During the first quarter of FY02, the scope for this phase of the project was modified. The data summaries and appendices under development were finalized and an initial Grading and Drainage Plan was developed for the Industrial Area, the conceptual design report (CDR) was not completed. A roadmap pulling together all the work and identifying future decisions upon which the initial conceptual design can be developed will be included. This phase of the project is scheduled for completion in the second quarter of FY02.

2.6 Environmental Remediation RFCA Standard Operating Protocol

The 45-day public comment period for the Draft ER RSOP for Routine Soil Remediation ended on October 24, 2001. The ER RSOP describes routine soil remediation activities at individual hazardous substance sites (IHSSs), potential areas of contamination (PACs), and under building contamination (UBC) Sites. Comments from the regulatory agencies and stakeholders on the Working Draft RSOP were incorporated into the Draft RSOP. A stewardship analysis, As Low As Reasonably Achievable analysis, and the Original Process Waste Line strategy were added, as well as additional information on regulatory agency responsibilities and public participation opportunities. A Draft Final RSOP for Routine Soil Remediation and a responsiveness summary were prepared during the first quarter of FY02, DOE anticipates ER RSOP approval by the regulators during the second quarter of FY02.

3.0 RFETS Closure Projects

RFETS Closure activities conducted during the first quarter of FY02 include (1) Industrial Area Operable Unit, B771; (2) Industrial Area Operable Unit, B776/777, (3) Industrial Area Operable Unit, B371/374, (4) Industrial Area Operable Unit, B707; and (5) Remediation, Industrial & Site Services Project (RISS).

3.1 Industrial Area Operable Unit, Building 771 Closure Project

The B771 Closure Project Decommissioning Operations Plan (DOP) was approved by CDPHE on January 11, 1999

During the first quarter of FY02, the B771 Closure Project Team conducted the following activities

- 1 Completed two D&D work sets, i e , Sets 60 and 65
- 2 Completed the Defense Nuclear Facility Safety Board milestone for processing the actinide liquids in December 2001 This is four months ahead of schedule
- 3 The third inner tent chamber for component size reduction was installed in room 149
- 4 Commenced dismantlement in B774

3 2 Industrial Area Operable Unit, Building 776/777 Closure Project

The B776/777 Closure Project DOP was approved by CDPHE on November 5, 1999 As of December 31, 2001, seven minor modifications to the DOP have been approved.

During the first quarter of FY02, the B776/777 Closure Project Team conducted the following activities

- 1 Completed five D&D sets, bringing the total to 45 sets completed to date There are a total of eighty-four work sets in the 776/777 project The 5 sets completed this quarter were Sets 10, 24, 29, 31, and 74 In addition, significant progress was made on sets 6 and 22 This quarter's sets included removal of 56 glovebox sections and six type I Buildings (702, 703, 712, 712A, 713, and 713A)
- 2 Closed by removal on November 15, 2001 the mixed residue vacuum accumulator V-752 Resource Conservation and Recovery Act (RCRA) tank
- 3 Submitted minor modification #8 to the Building 776/777 DOP to DOE on December 12, 2001 This modification includes (1) termination of the mixed residue consent order for tank systems in 776/777, (2) transfer of management of the process waste tanks from the RCRA permit to the DOP, and (3) submittal of unit-specific closure information sheets for the remaining mixed residue systems and overhead piping and for the process waste tanks

Asbestos abatement work continues A SAP was developed and implemented, and the subsequent analysis confirmed the asbestos material to be low level waste without further assay This allows the waste to be packaged in cargos and eliminates the need for hundreds of waste crates and overload of the RFETS assay capability

Activities planned for the second quarter include completion of sets 6, 13, 22, 25, 36, 41, 48, and 73

3.3 Industrial Area Operable Unit, Building 371/374 Closure Project

During the first quarter of FY02, the B371/374 Closure Project Team conducted the following activities

- 1 Removed Raschig rings in Set 5 (Room 3573) A new vacuum system was tested and successfully used in this set Removing rings using a vacuum proved safer and more efficient than previous methods Tank isolation is complete in Set 3 (Room 3517) and Set 4 (Room 3571), and initiated in Set 13 (Room 2317)
- 2 Completed glovebox removal in Set 24 (Room 3408) Completed demolition of the Northside Project, including two 100,000-gallon water tanks, cement storage silo and associated support buildings, 2 potassium hydroxide tanks, nitric acid storage tank, and the cooling tower Initiated electrical and mechanical strip-out of Set 7 (Room 3305)
- 3 Placed the following RCRA tanks in Building 374 into RCRA stable status Tanks D825A, D825B, D844A, D844B, D848, D883A, and D883B

Activities planned for the second quarter of FY02 include the "hot" test for the cerium decontamination system if this is determined necessary to ensure the tanks/gloveboxes meet the surface contamination only (SCO) criteria In addition, strip-out of electrical and mechanical systems in Set 14 will be initiated

3.4 Industrial Area Operable Unit, Building 707 Closure Project

During the first quarter of FY02, the B707 Closure Project Team conducted the following activities

- 1 Completed nine sets, i.e., sets H3, T2, U1, A1, C1, D1, D4, E1, and E4 This included removal of 21 glovebox/chainveyor sections, four large autoclave units, and cooling tower 709 This brings the total sets completed to date to 10 of 99 sets
- 2 Minor Modification #1 to the B707 DOP was approved by CDPHE on October 16, 2001 This modification included recharacterization of Type 2 facilities to Type 1 and approval of clean closure as the method of closure for Module E and Room 196
- 3 Minor Modification #2 to the B707 DOP was submitted to CDPHE on December 18, 2001 This modification includes updated set descriptions, updates to provide

consistency with the B776/777 DOP, termination of the Idle Equipment Consent Order, and other minor edits and corrections

Activities planned for the second quarter include completion of sets A6, D2, E2, E3, G1, G2, H1, and SET 1 (second floor)

3.5 Remediation, Industrial & Site Services Project

RISS activities supporting site closure during the first quarter of FY02 include D&D as well as ER

3.5.1 Decontamination and Decommissioning

During the first quarter of FY02, the following activities were completed

- 1 Decommissioning of Buildings 111 and 333 was completed. The B111 basement was left in place (3 feet below grade) using the EPA-approved risk analysis of low levels of PCB contamination in the painted concrete. A limited amount of concrete was produced during demolition due to larger amounts of reinforcing steel and as a result the B111 basement was back-filled with clean construction fill. Application of topsoil and seeding is scheduled for the last part of the second quarter of FY02.
- 2 Substantial progress was made in B886 decommissioning. The Room 103 glovebox and the Room 101 Assembly hood were removed and significant dismantlement was initiated. Primary power was removed from B886 and temporary connections were installed in an effort to reduce the chance for cutting live electrical feeds. Asbestos abatement was initiated in the north side of the facility. Facility decommissioning is currently scheduled for completion by May 2002.
- 3 Loose property removal and hazard stabilization was begun in B883. This work is scheduled for completion by the third quarter of FY02.
- 4 A Request for Proposal was issued for B865 decommissioning. Seven bidding teams participated in the walkthroughs and two teams provided bids. The result of the bid evaluation indicates a viable award will be made during January 2002 at a cost below the Budgeted Cost of Work Scheduled in the Closure Project Baseline.

Reconnaissance characterization for all Area 1 facilities has been initiated. A summary of Area 1 characterization is as follows:

Facility	Comments
883 Cluster	RLCR CDPHE concurrence was obtained 12/20/01
881 Cluster	RLCR CDPHE concurrence was obtained 12/20/01
865 Cluster	RLCR CDPHE concurrence was obtained 10/17/01
800 Area	RLCR CDPHE concurrence was obtained 10/11/01
442L	RLCR CDPHE concurrence was obtained 10/26/01
T891G, O,R, and V	RLCR CDPHE concurrence was obtained 11/12/01
280, 281, S281, 282, 284, T551A, 442W, T886B, T886C, T900D	RLCR CDPHE concurrence was obtained 8/21/01
428, 663, 666, 884	Prep work in progress Target submittal 3/02
880, T891B, T891D, T891F, T891P, T893A, T893B, T900E, T904A, T891E	Prep work in progress Target submittal 2/02
886 Cluster	Phase 1 PDSR – CDPHE concurrence for T886A, 888 and 888A, received 10/12/01 Phase 2 PDSR – Target submittal 2/02
827, 850, 890, 881C, 883C, 881G, 881H, C-865, 881 tunnel, T690N	Field sampling in progress Target submittal 2/02
452, S452, T428B, T452A-G	RLCR submitted to RFFO on 12/27/01
902 and 904 pads, tents 7-11	902 and 904 pads and tents 7-9 RLCR submitted to RFFO 11/29/01 RLCR CDPHE concurrence for tents 10 and 11 received 5/25/01

3.5.2 Environmental Restoration

ER activities implementing RFCA and supporting closure during the first quarter of FY02 included (1) Buffer Zone (BZ) Operable Unit (OU), Group 900-11, (2) Plume Maintenance and Monitoring, (3) OU 1, (4) Group 000-5 Present Landfill, Group 000-1 Solar Ponds, and Group SW-2 Original Landfill Cap, and (5) IA Characterization.

3.5.2.1 Buffer Zone Operable Unit, Group 900-11 (903 Pad)

A closure strategy similar to the Industrial Area (IA) Strategy will be implemented for the closure of the BZ OU and OUs 5, 6, 7 which reside geographically in the BZ of the RFETS. The BZ closure strategy integrates characterization and remediation of BZ IHSSs and PACs.

The first action of the BZ closure strategy was to develop a Buffer Zone Data Summary Report which accumulates all existing analytical data available in the Soil Water Database for all sample locations outside the Industrial Area OU. These data were evaluated for usability and those data that passed the data quality filters will be utilized to provide starting point characterization data for individual IHSS'. A draft of the Buffer Zone Data Summary Report was presented to the regulators for review in July 2001.

DQOs to support characterization requirements will be outlined in the BZSAP. The BZSAP is the sampling plan to gather analytical data from IHSSs and PACs in the BZ for future decision making purposes. These data will be evaluated to determine whether no further action (NFA), additional characterization, or remedial/management action is required. The plan will be written to enable analytical results from samples collected outside of IHSSs and PACs (white space) to be used for the CRA that evaluates residual risk following completion of all accelerated actions. The BZSAP sampling requirements will contain the final site characterization requirements for the RFETS BZ. A draft of the BZSAP was presented to the regulators for review and delivered to Rocky Flats Reading Rooms in July 2001. Comments were received from the regulators in October, and following revisions to the draft to address the comments, the Draft Final BZSAP will be transmitted to the agencies for review in January 2002.

BZSAP addenda will be prepared for each IHSS, IHSS group or PAC which provides background information of the IHSS or PAC, sampling requirements to meet the BZSAP's DQO's, and analytical data currently available and usable to support the identified sampling requirements. Each BZSAP addendum will define the study area and optimize the sampling design for the IHSS or PAC to meet the DQO's identified in the BZSAP. The draft BZSAP FY02 addendum is scheduled for a January 2002 submittal.

A surface water monitoring network designed to establish baseline (pre-remediation) water quality for surface waters draining from the 903 Pad and Lip Areas was installed in FY01. A total of seven surface water sampling stations, two existing and five new stations, comprise the monitoring network. Twelve surface water samples have been collected since initiation of the monitoring program. Due to low flow conditions no surface water samples were collected last quarter.

3 5 2 2 Plume Maintenance and Monitoring

Operation, maintenance and monitoring continue for the three reactive barriers and two other plume treatment systems at Rocky Flats. The reactive barriers are the Mound Site Plume, East Trenches Plume and Solar Ponds Plume groundwater collection and treatment systems. The other two plume systems collect and treat groundwater at OU1 - 881 Hillside and at the OU 7 - Present Landfill Seep.

The activities and performance monitoring data for the five systems are provided in the Quarterly and Annual Reports for the Rocky Flats Groundwater Plume Treatment Systems. The Quarterly Report was completed December 31, 2001 and contains information on the Solar Ponds Plume Treatment System and the status of the Property Utilization & Disposal Yard Treatability Study. The status of the remaining plume treatment systems will be reported annually after the close of the calendar year.

3.5 2.3 OU1

The DOE and EPA signed the final Modification to the OU1 CAD/ROD in January 2001. Because soil removal was not necessary, the modified remedy deleted the requirement to remove soil and included pumping and treating groundwater from the OU1 Collection Well for a period of one year after signing the final Modification, and continued groundwater monitoring at IHSS 119 1 consistent with the RFETS IMP. No other activities were performed during the first quarter of FY02.

The first quarter OU1 Collection Well monitoring data will be evaluated and reported in the Quarterly and Annual Plume Treatment reports (see Section 3.5.2.2). It is anticipated that the Collection Well monitoring data will continue to be below the Action Levels and Standards Framework Tier 1 action levels and pumping and treating of groundwater will be discontinued at the end of the year. The Collection Well will then be designated as a Plume Definition Well and initially monitored quarterly, consistent with the IMP.

3.5 2.4 Group 000-5 (Present Landfill), Group 000-1 Solar Ponds, and Group SW-2 Original Landfill Cap

This project involves the modeling and conceptual design of proposed evapotranspiration covers for the Solar Evaporation Ponds and the Present Landfill. The draft work plan for the conceptual design and the White Paper Report were submitted for review/comment to the regulatory agencies and their comments were subsequently addressed and incorporated. A draft modeling report was developed and recently reviewed and commented on by Kaiser-Hill. A draft copy will be forwarded to the regulators in the second quarter of FY02. A draft Feasibility Report and CDR were recently developed and submitted to Kaiser-Hill for review and comment which will continue into next quarter. The Solar Ponds Feasibility Report and CDR are expected at the beginning of the second quarter of FY02. Draft Interim Measure/Interim Remedial Action (IM/IRA) Decision Documents are being developed in parallel with the CDR effort for both projects. Recent approval of EM-50 money will allow the project to accelerate the Title II/III engineering on the Present Landfill this fiscal year. The CDPHE and EPA are involved in each phase of the project.

The Site is developing an IM/IRA Decision Document for the Original Landfill project, which includes an analysis of potential remedial alternatives. Recent work includes analyzing the existing data and invoking the Remedial Action Decision Management System process on the data analysis for each alternative.

3.5.2.5 Industrial Area Characterization

IASAP Addenda for FY02 were prepared to describe soil-sampling locations in IHSSs, PACs, and UBC Sites. Addendum #IA-02-01 includes sampling and analysis.

specifications for IHSS Groups 100-4, 100-5, 300-1, 300-6, 400-10, 500-6, 500-7, 600-1, 600-6, 700-12, and 800-6 Addendum #IA-02-02 includes sampling and analysis specifications for IHSS Group 900-4&5 The IASAP Addenda contain maps of existing sampling locations and data, where available, and of proposed new sampling locations Addendum IA-02-01 was approved by CDPHE and EPA with modifications in November 2, 2001 The regulatory agencies did not respond to Addendum IA-02-02 within the 14 day period

4.0 Water Management

Water management activities during the fourth quarter of FY01 are summarized by (1) Watershed Improvements, (2) Surface Water Management, (3) Surface Water Monitoring, (4) Groundwater Monitoring, and (5) the Rocky Flats Water Working Group

4.1 Watershed Improvements

The annual *Comprehensive Site Compliance Evaluation* was completed and submitted to the EPA and CDPHE ahead of the due date The evaluations focused upon potential sources of pollution that could effect RFETS surface water (i.e., integrity of liquid storage tanks, presence of liquids in secondary containments, improper storage of potential surface water contaminants, etc.)

The annual Inspection of the RFETS National Pollutant Discharge Elimination System Permit Outfalls was conducted during the first quarter of FY02 All Outfalls were free of oil sheens and there were no apparent signs of pollution, plugging or damage

Erosion control measures (straw bales) were recommended and installed on Buildings 111/333 and 709 Cooling Tower D&D Projects to prevent sediment transport into an RFETS drainage

Given winter conditions, no work was conducted on RFETS culverts and drainages during the first quarter of FY02

4.2 Surface Water Management

During the first quarter of FY02, the Site completed the following pond water transfers and discharges totaling 26.71 Million Gallons (MG), a decrease of 2% compared to the first quarter of FY01 (27.37 MG)

Pond A-3 activity included one routine outlet-valve direct discharge to Pond A-4 totaling 3.42 MG This discharge occurred during the period of October 8 through 11, 2001

Pond B-5 activity included two routine outlet-valve direct discharges to South Walnut Creek totaling 23.29 MG. The first discharge of 13.42 MG occurred during the period of October 3 through 16, 2001. The second discharge of 9.87 MG occurred during the period of November 30, 2001 through December 11, 2001. Water quality samples were collected and analyzed, and all approvals were obtained prior to the discharges. The City of Broomfield diverted the Pond B-5 discharges around Great Western Reservoir via the Broomfield Diversion Ditch.

There were no Pond A-1, A-2, A-4, B-1, B-2, C-2, or Landfill Pond transfers or discharges during the first quarter of FY02.

Transfers and discharges from the Site ponds during the first quarter of FY02 are summarized as follows:

Dates	Pond Activity	Total MG	Mode
10/3 to 10/16	B-5 to SWC	13.42	Outlet-valve direct discharge
10/8 to 10/11	A-3 to A-4	3.42	Outlet-valve direct discharge
11/30 to 12/11	B-5 to SWC	9.87	Outlet-valve direct discharge
Total for Quarter		26.71 MG	

4.3 Surface Water Monitoring

During the first quarter of FY02, 39 composite samples were collected by the RFCA automated monitoring system and submitted for analysis. This represents a 27% reduction in sampling activity when compared to the average activity (average of 53 samples) for the same period during the prior four years of RFCA sampling (Q1FY01: 48 samples, Q1FY00: 54 samples, Q1FY99: 46 samples, Q1FY98: 64 samples). Only the first quarter of FY97 had fewer composite samples (23 samples) collected and analyzed.

During the first quarter of FY02, the 30-day moving averages for all RFCA Point of Evaluation (POE) and Point of Compliance (POC) monitoring locations were below the RFCA action levels and standards for all monitored metals and radionuclides. During the first quarter of FY02, work planning was completed for installation of seven new performance monitoring locations. Monitoring data from these new locations will be used to develop water quality baselines for the subdrainage basin south of B881, subdrainages including the landfill pond and old landfill, the subdrainages south and northeast of the 400 area, subdrainages north of B883 and B886/865, and the upper reach of the Woman Creek drainage basin.

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Preliminary analytical results were received for the first sample collected at SW055 (one of the five new 903 Pad Area performance monitoring locations) The results will be used to start developing a water quality baseline for the SW055 sub-drainage basin (the area immediately south and east of the 903 Pad)

4.4 Ground Water Monitoring

The Second (calendar) Quarter 2001 groundwater monitoring report was presented to the Stakeholders at the Quarterly Information Exchange Meeting on November 27, 2001

Other activities completed during the first quarter of FY02 included

- 1 Wells supporting the D&D Monitoring of Buildings 883, 865, 881, 991 and 559 were installed
- 2 All groundwater samples and water level measurements for the first quarter of FY02 were completed on December 28, 2001
- 3 The Well Abandonment and Replacement Program was initiated to identify wells needing abandonment at the Site
- 4 The Annual RFCA Groundwater Monitoring Report was completed and distributed by DOE to CDPHE and EPA on November 16, 2001
- 5 In the Second Quarter 2002, the well identified in the Industrial Area Plume SAP will be installed

4.5 Rocky Flats Water Working Group

The RFETS Water Working Group was part of the Quarterly Exchange of Information Meeting held on November 27, 2001 Two items were on the agenda

- 1 A presentation by Kaiser-Hill on the Site-Wide Water Balance The SWWB Team presented information about the water balance model selected for RFETS, and results of model calibrations and related studies on both surface and ground water
- 2 A Year End Summary by Kaiser-Hill of Surface Water and Ground Water Monitoring Accomplishments The Water Programs Group presented a summary of the organizations' accomplishments over the past year, highlighting the implementation of new monitoring requirements in the renewed NPDES permit, and the ground water monitoring done in support of RFETS closure

5.0 List of Approved Decision Documents

This list of approved decision documents provides the information for the update to RFCA Attachment 12

- 1 Minor Modification #1 to the Building 707 DOP was approved by CDPHE on October 16, 2001. This modification included recharacterization of Type 2 facilities to Type 1 and approval of clean closure as the method of closure for Module E and Room 196.
- 2 Addendum #02-01 to the Industrial Area Sampling and Analysis Plan was approved by CDPHE and EPA on November 2, 2001.
- 3 Minor Modification #8 to the Building 776/777 DOP was submitted to DOE on December 12, 2001. This modification includes: (1) termination of the mixed residue consent order for tank systems in 776/777, (2) transfer of management of the process waste tanks from the RCRA permit to the DOP, and (3) submittal of unit-specific closure information sheets for the remaining mixed residue systems and overhead piping and for the process waste tanks.
- 4 Minor Modification #2 to the Building 707 DOP was submitted to CDPHE on December 18, 2001. This modification includes updated set descriptions, updates to provide consistency with the Building 776/777 DOP, termination of the Idle Equipment Consent Order, and other minor edits and corrections.

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